

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/003096

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/48 C12Q1/42 C12Q1/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 02/48391 A (CALVIN BOON KA KHIU ; DICK THOMAS (SG); INST OF MOLECUL & CELL BIOLOGY) 20 June 2002 (2002-06-20) page 2, line 9 - line 18 page 15, line 25 - page 16, line 20</p> <p style="text-align: center;">----- -/--</p>	1-12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

- *T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the International search

30 November 2004

Date of mailing of the International search report

17/12/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

 Inter Application No
 PCT/IB2004/003096

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	AV-GAY Y ET AL: "EXPRESSION AND CHARACTERIZATION OF THE MYCOBACTERIUM TUBERCULOSIS SERINE/THREONINE PROTEIN KINASE PKNB" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 67, no. 11, November 1999 (1999-11), pages 5676-5682, XP001162849 ISSN: 0019-9567 cited in the application page 5677, left-hand column, paragraph 1 - paragraph 4. page 5677, right-hand column, last paragraph - page 5678, left-hand column, last line ; figures 1-3 page 5679, left-hand column, paragraph 2 - right-hand column, line 2 page 5681, left-hand column, paragraph 1 - last paragraph	1-12
A	EP 0 962 532 A (INNOGENETICS NV) 8 December 1999 (1999-12-08) page 14, paragraph 105 - page 15, paragraph 110; claims 2,4,5; sequence 2	6-10
P,X	WO 03/074728 A (UNIV BRITISH COLUMBIA ; AV-GAY YOSSEF (CA); COWLEY SIOBHAN (CA); DREWS) 12 September 2003 (2003-09-12) page 2, line 5 - pages 3,6; claims 28-36,41; examples 1,3,5 page 6, line 17 - line 18 page 21, line 12 - page 22, line 16	1-5,11
P,Y	SINGH YOGENDRA ET AL: "Identification of drug targets in M. tuberculosis: Studies with protein kinases and phosphatases." MEDICINAL CHEMISTRY RESEARCH, vol. 12, no. 4-5, February 2004 (2004-02), pages 241-242, XP002308146 & INTERNATIONAL SYMPOSIUM ON CURRENT TRENDS IN DRUG DISCOVERY RESEARCH; LUCKNOW, INDIA; FEBRUARY 17-20, 2004 ISSN: 1054-2523 the whole document	1-12

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,Y	<p>BOITEL BRIGITTE ET AL: "PknB kinase activity is regulated by phosphorylation in two Thr residues and dephosphorylation by PstP, the cognate phospho-Ser/Thr phosphatase, in Mycobacterium tuberculosis."</p> <p>MOLECULAR MICROBIOLOGY. SEP 2003, vol. 49, no. 6, September 2003 (2003-09), pages 1493-1508, XP002306392 ISSN: 0950-382X the whole document</p>	1-12
P,Y	<p>-----</p> <p>CHOPRA P ET AL: "Phosphoprotein phosphatase of Mycobacterium tuberculosis dephosphorylates serine-threonine kinases PknA and PknB"</p> <p>BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 311, no. 1, 7 November 2003 (2003-11-07), pages 112-120, XP004465111 ISSN: 0006-291X page 112, right-hand column, paragraph 2 - page 114, left-hand column, last paragraph page 118, left-hand column, last paragraph - page 119, left-hand column, paragraph 3</p> <p>-----</p>	1-12

INTERNATIONAL SEARCH REPORT

ational application No.
PCT/IB2004/003096

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 13, 14
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 13,14

Present claims 13 and 14 relate to a substance identified according to a method for identifying a substance. The claims cover all substances having this characteristic or property, whereas the application provides no support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for such substances. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the substance by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, no search has been carried out.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/003096

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0248391	A	20-06-2002	AU	1610002 A		24-06-2002
			WO	0248391 A2		20-06-2002
			GB	2386420 A		17-09-2003
EP 0962532	A	08-12-1999	EP	0962532 A1		08-12-1999
WO 03074728	A	12-09-2003	WO	03074728 A2		12-09-2003

CORRECTED VERSION

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Organization
International Bureau



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PCT

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1/42, 1/18

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PCT/IB2004/003096

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(25) Filing Language: English

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(71) Applicant (for all designated States except US): **INSTITUT PASTEUR** [FR/FR]; 25-28, rue du Docteur Roux, F-75015 Paris (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ALZARI, Pedro** [IT/FR]; 141, rue de Vaugirard, F-75015 Paris (FR). **BOITEL, Brigitte** [FR/FR]; 37, rue de Sahel, F-75012 Paris (FR). **VILLARINO, Andréa** [UY/FR]; 198 bis rue Raymond Losserand, F-75014 Paris (FR). **FERNANDEZ, Pablo** [AR/FR]; 197, rue de Tolbiac, F-75013 Paris (FR). **COLE, Stewart** [GB/FR]; 23 bis, rue Cécile Dinant, F-92140 Clamart (FR).

(74) Agents: **MARTIN, Jean-Jacques et al.**; Cabinet Regimbeau, 20, rue de Chazelles, F-75847 Paris Cedex 17 (FR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only
- of inventorship (Rule 4.17(iv)) for US only

Published:

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21 April 2005

(15) Information about Correction:

see PCT Gazette No. 16/2005 of 21 April 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PKNB KINASE AND PSTP PHOSPHATASE AND METHODS OF IDENTIFYING INHIBITORY SUBSTANCES**

(57) Abstract: The present invention relates to a pknB kinase and a pstP phosphatase as well as their use for identifying antibacterial substances.

WO 2005/007880 A1